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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,806	01/02/2001	Q.Z. Liu	00CON122P-DIV1	2716

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EXAMINER

NADAV, ORI

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 12/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/754,806

Applicant(s)

LIU ET AL.

Examiner

ori nadav

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-26 and 28-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-26 and 28-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 24-26 and 28-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornett et al. (6,069,397) in view of Ewen et al. (5,446,311). Cornett et al. teach in figure 2 and related text a structure in a semiconductor chip, the structure comprising a dielectric 217 having a first permeability, a permeability conversion magnetic oxide material 221, 223 having a second permeability, the permeability conversion material (metal) being interspersed within the dielectric, wherein the second permeability is greater than the first permeability (column 2, lines 39-62), wherein a second permeability being achieved by interspersing a permeability conversion material (metal particles) within the second area of the dielectric, the permeability conversion material having a third permeability, the third permeability being greater than the first and second permeabilities, an inductor 110 comprising a square spiral (see figure 1) conductor patterned within the dielectric, the conductor

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having first and second terminals, the first and second terminals of the conductor being respectively first and second terminals of the inductor.

Cornett et al. do not explicitly state that the second permeability of magnetic oxide layers 221, 223. is greater than the first permeability of passivation/dielectric layer 217. That is, Cornett et al. do not state that the conventional passivation/dielectric layer 217 comprise silicon oxide.

Ewen et al. teach in figure 3 a passivation/dielectric layer 2 comprising silicon oxide. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a dielectric layer comprising silicon oxide in Cornett et al.'s device in order to simplify the processing the steps of the making the device by insulating the device with a conventional silicon oxide insulating material, of which official notice is taken.

Regarding claims 29, 35 and 46, Cornett et al. do not teach using a conductor being selected from the group consisting of copper, aluminum, and copper-aluminum alloy. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a conductor being selected from the group consisting of copper, aluminum, and copper-aluminum alloy in Cornett et al.'s device in order to improve the conductivity of the device with a conventional conducting material. Note that substitution of materials is not patentable even when the substitution is new and useful.

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Safetran Systems Corp. v. Federal Sign & Signal Corp. (DC NIII, 1981) 215 USPQ 979.

Regarding the processing limitations recited in claims 38, 44 and 45 ("the permeability conversion material is interspersed in the second dielectric area by ion implantation and by sputtering when the first dielectric area is covered with photo resist"), these would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced. Note that a "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and *In re Marosi et al.*, 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear.

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***Response to Arguments***

3. Applicant argues on pages 4-5 that Cornett et al. do not teach surrounding first conductive trace 110 by a dielectric layer and subsequently has its permeability increased by having a conversion material interspersed within the dielectric layer.

Forming Cornett et al.'s device by first surrounding conductive trace 110 by a dielectric layer and then has its permeability increased by having a conversion material interspersed within the dielectric layer is a processing limitation which would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced. Even applicant admits that the term "interspersing" is a process of implantation, sputtering and other related processes (page 2 of present remarks).

4. Applicant argues on pages 5-6 that Ewen et al. do not teach the claimed invention.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Cornett et al. teach substantially the entire claimed structure, except stating that the passivation/dielectric layer 217 comprises oxide. Ewen et al., on the other hand, is cited to teach that a conventional passivation/dielectric layer comprises silicon oxide.

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**Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.**

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas, can be reached at **(703) 308-2772**.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**



O.N.  
December 26, 2002

ORI NADAV  
PATENT EXAMINER  
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